

Application No. 10/065,225
Docket No. 17MY-7241
Amendment dated July 30, 2003
Reply to Office Action of March 31, 2003

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (currently amended): A castable weldable nickel-base alloy consisting ~~essentially~~ of, by weight, about 10% to about 25% cobalt, about 20% to about 28% chromium, about 1% to about 3% tungsten, about 1.6% to about 3.8% aluminum, about 0.4% to about 1.5% titanium, where the sum of aluminum and titanium is about 1.8% to about 5.0%, about 0.5% to about 1.5% columbium, 0.5% to about 1.5% tantalum, about 0.001% to about 0.025% boron, about 0.05% maximum zirconium, about 0.02% to about 0.15% carbon, with the balance ~~essentially~~ nickel and incidental impurities.

Claim 2 (original): The alloy according to claim 1, wherein the alloy contains 1.6 to 2.8 weight percent aluminum.

Claim 3 (original): The alloy according to claim 2, wherein the sum of the aluminum and titanium content is 1.8 to 4.3 weight percent.

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Claim 4 (original): The alloy according to claim 1, wherein the alloy contains 2.8 to 3.8 weight percent aluminum.

Claim 5 (original): The alloy according to claim 4, wherein the sum of the aluminum and titanium content is 3.0 to 5.0 weight percent.

Claim 6 (original): The alloy according to claim 1, wherein the alloy has been solution heat treated at about 1150°C for about four hours, quenched to below about 700°C, and then aged at about 800°C for about eight hours.

Claim 7 (original): The alloy according to claim 1, wherein the alloy contains about 22 to about 43 volume percent of a gamma-prime precipitate phase.

Claim 8 (original): The alloy according to claim 1, wherein the alloy is in the form of a cast nozzle of a gas turbine engine.

Claim 9 (original): The alloy according to claim 8, wherein the alloy contains 2.8 to 3.8 weight percent aluminum, and the nozzle is installed in a second turbine stage of the gas turbine engine.

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Claim 10 (original): The alloy according to claim 8, wherein the alloy contains 1.6 to 2.8 weight percent aluminum, and the nozzle is installed in a third turbine stage of the gas turbine engine.

Claim 11 (currently amended): A castable weldable nickel-base alloy consisting essentially of, by weight, 18.5% to 19.5% cobalt, 22.2% to 22.8% chromium, 1.8% to 2.2% tungsten, 2.0% to 2.4% aluminum, 0.55% to 0.75% titanium, the sum of aluminum and titanium being 2.5% to 3.2%, 0.7% to 1.45% columbium, 0.9% to 1.1% tantalum, 0.005% to 0.015% boron, 0.005% to 0.02% zirconium, 0.04% to 0.10% carbon, with the balance essentially nickel and incidental impurities.

Claim 12 (original): The alloy according to claim 11, wherein the alloy is in the form of a cast nozzle of a gas turbine engine.

Claim 13 (original): The alloy according to claim 12, wherein the nozzle is installed in a third turbine stage of the gas turbine engine.

Claim 14 (currently amended): The alloy according to claim 11, wherein the alloy contains, by weight, about 19% cobalt, about 22.5% chromium, about 2% tungsten, about 2.2% aluminum, about 0.65% titanium, about 0.8% columbium, about

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1% tantalum, about 0.01% boron, about 0.01% zirconium, about 0.06% carbon, with the balance ~~essentially~~ nickel and incidental impurities.

Claim 15 (original): The alloy according to claim 14, wherein the alloy is in the form of a cast nozzle installed in a third turbine stage of the gas turbine engine.

Claim 16 (currently amended): A castable weldable nickel-base alloy consisting ~~essentially~~ of, by weight, 18.5% to 19.5% cobalt, 22.2% to 22.8% chromium, 1.8% to 2.2% tungsten, 3.0% to 3.5% aluminum, 0.55% to 0.75% titanium, the sum of aluminum and titanium being 3.6% to 4.2%, 0.7% to 1.45% columbium, 0.9% to 1.1% tantalum, 0.005% to 0.015% boron, 0.005% to 0.02% zirconium, 0.04% to 0.10% carbon, with the balance ~~essentially~~ nickel and incidental impurities.

Claim 17 (original): The alloy according to claim 16, wherein the alloy is in the form of a cast nozzle of a gas turbine engine.

Claim 18 (currently amended): The alloy according to claim 17, wherein the nozzle is installed in a second ~~third~~ turbine stage of the gas turbine engine.

Claim 19 (currently amended): The alloy according to claim 16, wherein the

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alloy contains, by weight, about 19% cobalt, about 22.5% chromium, about 2% tungsten, about 3.25% aluminum, about 0.65% titanium, about 0.8% columbium, about 1% tantalum, about 0.01% boron, about 0.01% zirconium, about 0.06% carbon, with the balance ~~essentially~~ nickel and incidental impurities.

Claim 20 (original): The alloy according to claim 19, wherein the alloy is in the form of a cast nozzle installed in a second turbine stage of the gas turbine engine.